

WHAT IS CLAIMED IS:

1. A computer-implemented system of developing multi-tier business applications, comprising:
 - an Integrated Development Environment (IDE), executed by a computer, for
 - 5 creating and maintaining a multi-tier business application on a multiple tier computer network, wherein the IDE includes a Topological Multi-Tier Business Application Composer that is used by a developer to graphically design, develop, maintain, build, test, debug, and deploy the multi-tier business application, the Composer includes a window and a palette, and the palette contains graphical constructs representing tiers and components of
 - 10 the tiers that are used to design, develop, maintain, build, test, debug, and deploy a graphical presentation of the multi-tier business application in the window.
2. The system of claim 1, wherein the icons are dragged from the palette onto the window, and thereafter connected together, in a topological structure for the multi-tier
- 15 business application.
3. The system of claim 1, wherein the components are selected from a group comprising workstations, servers, application files, connections, data paths, user-defined processes, and other user-defined elements.
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4. The system of claim 1, wherein the Composer is used to perform one or more actions selected from a group comprising:
 - creating the tiers involved in the multi-tier business application;
 - specifying the components of each of the tiers; and
 - 25 specifying properties that identify each of the tiers and the components of the tiers.
5. The system of claim 1, wherein the IDE further comprises a Meta-model that captures information entered via the Composer and that persistently stores the information.

6. The system of claim 5, wherein the captured information is selected from a group comprising information about tiers, workstations, servers, application files, connections, data paths, user-defined processes, and other user-defined elements.

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7. The system of claim 5, wherein the Meta-model is updated and kept in synchronization with any updates made to the multi-tier business application via the Composer.

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8. The system of claim 5, wherein the Meta-model is accessible by other tools.

9. A computer-implemented method for developing multi-tier business applications, comprising:

creating and maintaining a multi-tier business application on a multiple tier computer network using an Integrated Development Environment (IDE) executed by a computer, wherein the IDE includes a Topological Multi-Tier Business Application Composer that is used by a developer to graphically design, develop, maintain, build, test, debug, and deploy the multi-tier business application, the Composer includes a window and a palette, and the palette contains graphical constructs representing tiers and components of the tiers that are used to design, develop, maintain, build, test, debug, and deploy a graphical presentation of the multi-tier business application in the window.

10. The method of claim 9, wherein the icons are dragged from the palette onto the window, and thereafter connected together, in a topological structure for the multi-tier business application.

11. The method of claim 9, wherein the components are selected from a group comprising workstations, servers, application files, connections, data paths, user-defined processes, and other user-defined elements.

12. The method of claim 9, wherein the Composer is used to perform one or more actions selected from a group comprising:

- creating the tiers involved in the multi-tier business application;
- 5 specifying the components of each of the tiers; and
- specifying properties that identify each of the tiers and the components of the tiers.

13. The method of claim 9, wherein the IDE further comprises a Meta-model that captures information entered via the Composer and that persistently stores the
10 information.

14. The method of claim 13, wherein the captured information is selected from a group comprising information about tiers, workstations, servers, application files, connections, data paths, user-defined processes, and other user-defined elements.
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15. The method of claim 13, wherein the Meta-model is updated and kept in synchronization with any updates made to the multi-tier business application via the Composer.

20 16. The method of claim 13, wherein the Meta-model is accessible by other tools.

17. An article of manufacture embodying logic for developing multi-tier business applications, the logic comprising:

25 creating and maintaining a multi-tier business application on a multiple tier computer network using an Integrated Development Environment (IDE) executed by a computer, wherein the IDE includes a Topological Multi-Tier Business Application Composer that is used by a developer to graphically design, develop, maintain, build, test, debug, and deploy the multi-tier business application, the Composer includes a window and a palette, and the

palette contains graphical constructs representing tiers and components of the tiers that are used to design, develop, maintain, build, test, debug, and deploy a graphical presentation of the multi-tier business application in the window.

5 18. The article of manufacture of claim 17, wherein the icons are dragged from the palette onto the window, and thereafter connected together, in a topological structure for the multi-tier business application.

10 19. The article of manufacture of claim 17, wherein the components are selected from a group comprising workstations, servers, application files, connections, data paths, user-defined processes, and other user-defined elements.

15 20. The article of manufacture of claim 17, wherein the Composer is used to perform one or more actions selected from a group comprising:
 creating the tiers involved in the multi-tier business application;
 specifying the components of each of the tiers; and
 specifying properties that identify each of the tiers and the components of the tiers.

20 21. The article of manufacture of claim 17, wherein the IDE further comprises a Meta-model that captures information entered via the Composer and that persistently stores the information.

25 22. The article of manufacture of claim 21, wherein the captured information is selected from a group comprising information about tiers, workstations, servers, application files, connections, data paths, user-defined processes, and other user-defined elements.

 23. The article of manufacture of claim 21, wherein the Meta-model is updated and kept in synchronization with any updates made to the multi-tier business application via the Composer.

24. The article of manufacture of claim 21, wherein the Meta-model is accessible by other tools.

Patent for the Meta-model